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REVIEW OF THE BOOK "SAFETY EXPLOSIVES, BY A. I. GOL'BINDER AND K. K. ANDREYEV

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Safety requirements in coal-mine blasting have brought about the development of quite a few explosives which sharply reduce the probability of gas or dust inflammation. In addition, these requirements have stimulated a considerable number of theoretical investigations in which the inflammation, mechanisms of methane-air and dust-air mixtures were studied. As a result of these investigations, the safety problem was placed on a firm scientific foundation and became, to a certain extent, a separate, if somewhat limited, branch of science. Soviet scientists recently have attained considerable achievements in scientific fields directly related to the problem of safety blasting.

There are numerous articles in Soviet literature on safety explosives and the safety problem, particularly in transactions of the MakNII (Makeyevka Scientific-Research Institute). However, up to the present, these materials were published chiefly in the form of articles dealing with separate questions. There was no book with all the essential data combined. Now, with publication of this book by A. I. Gol'binder and K. K. Andreyev, this gap has been filled.

The book considers the problems of the technology and theory of safety blasting and deserves a high appraisal. Compiling and systematizing considerable material, the authors accomplished a great task. In dealing with separate facts and phenomena, they endeavored to give and, in most of the cases, succeeded in giving a clear physical interpretation.

The book also has some shortcomings.

In presenting different theories, the authors indicate faults in the theories, and the groundlessness of certain terms and aspects, but this criticism is not sufficiently decisive or clear. For example, criticizing the Odiber scheme and presenting experimental data on the ability of safety (according to Odiber) explosives

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to inflame gas, the authors are not definite enough in disproving Odiber's attempt, incorrect in principle, to establish the absolute criterion of safety. Odiber does not take into consideration the factor that the inflammation process is based on probability. Although the probability of inflammation is considerably reduced for explosives which satisfy the Odiber criterion, those explosives may not be considered as absolute safety explosives, which quality Odiber attempts to prove.

The authors also do not criticize sufficiently the unsatisfactory terminology introduced by Bailing to describe the process of explosion, nor his other incorrect aspects in the given field.

However, the book contains abundant factual material and contributes to a better understanding of the history of safety explosives and their present development.

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